

Species: *Erigeron philadelphicus* L.

Common names – Philadelphia fleabane

Status: Table 1 summarizes the current status of this plant by various ranking entities and defines the meaning of the status.

Table 1. Current status of <i>Erigeron philadelphicus</i>		
Entity	Status	Status Definition
NatureServe	G5	G5—Globally secure – Common, widespread, and abundant. Perpetually secure under present conditions. Typically with considerably more than 100 occurrences and more than 10,000 individuals.
Colorado Natural Heritage Program (CNHP)	S1	S1 – State critically imperiled - Critically imperiled because of extreme rarity or because of some factor(s) making it especially vulnerable to extirpation or extinction. Typically 5 or fewer occurrences or less than 1000 remaining individuals.
USDA Forest Service	None	
USDI Fish and Wildlife Service	Not listed	Not federally recognized under the Endangered Species Act (ESA) as endangered, threatened, proposed, or candidate species.

The 2012 U.S. Forest Service Planning Rule defines Species of Conservation Concern (SCC) as “a species, other than federally recognized threatened, endangered, proposed, or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capability to persist over the long-term in the plan area” (36 CFR 219.9). This overview was developed to summarize information relating to this species' consideration to be listed as a SCC on the Rio Grande National Forest, and to aid in the development of plan components and monitoring objectives.

Distribution, abundance, and population trend on the planning unit:

According to the USDA PLANTS database *Erigeron philadelphicus* is known from Canada and 46 of the lower 48 states; the two exceptions are Utah and Arizona (USDA NRCS 2015). NatureServe (2015) indicates it is known from Alamosa, Archuleta, La Plata, Mineral, and Saguache Counties in Colorado and that the La Plata and Mineral Counties occurrences have possibly been extirpated. The PLANTS database (USDA NRCS 2015) indicates that in Colorado, the wetland indicator status for this species is facultative (meaning it occurs in wetlands and non-wetlands) and facultative upland (meaning it usually

occurs in non-wetlands, but may occur in wetlands). The database also mentions that this species is known to be weedy and even though it is a native plant, it's considered invasive by the Southern Weed Science Society (in areas outside of the planning area). The Flora of North America (1993+) notes that *Erigeron philadelphicus* is native to North America, but it has been introduced worldwide in temperate areas as a weed.

There is one CNHP historical element occurrence record of *Erigeron philadelphicus* in the planning area. The occurrence was reported in 1990; CNHP reports that it has not been revisited and there is no data pertaining to the size or condition of the occurrence. There are six other occurrences reported in Colorado, outside of the planning area, two of which are on NFS lands. Both of those occurrences are located on the San Juan National Forest, one of them is a historical occurrence, reported in 1924 and not revisited (CNHP 2015).

Erigeron philadelphicus was evaluated for listing as an R2 sensitive species in 2001 and 2002 (Ode 2001, Morse 2001, Laursen and Heidel 2002). At that time, a status of "Not R2 Sensitive Species and Not of Concern" was assigned to the species. It was noted that the species is widespread and common in the Great Plains portion of Region 2.

In his evaluation, Morse (2001) notes that Weber and Wittman (Weber and Wittman 2001b, as reported in Morse 2001) surmise that the populations in Colorado may have been introduced from elsewhere. Morse also noted that information on population trends for Region 2 are not available but it is likely that the populations in Region 2 are stable or perhaps increasing in range because of the weedy nature of the species. Laursen and Heidel (2002) note that the species is ranked "S2" in Wyoming, but it has no threats and is not tracked as a state species of concern (a check of the current lists in Wyoming determined that it is still not listed as a plant species of concern, nor is it listed as a plant species of potential concern). They went on to say that it appears the known occurrences in Wyoming have natural or unnatural disturbance so available habitat is presumed stable.

USFS Corporate Database Habitat Type Associated with the Species

The historical occurrence on the RGNF is located in the Arizona Fescue on Mountain Slopes Land Type Association (LTA), but there is not enough information to state that it will only be found in that particular LTA (RGNF GIS data).

The plant guide from the PLANTS database (USDA NRCS 2001) describes *Erigeron philadelphicus* as preferring moist to very wet conditions. It grows in wet meadows and grassy openings, flood plains, lowland woodlands, thickets, fields, stream banks, low pastures, wet roadsides and seepage areas. It's found on a variety of soils, but requires soils that are moist and moderately well drained.

Brief description of natural history and key ecological functions:

Erigeron philadelphicus is a biennial or short-lived, somewhat weedy, perennial herb. The hemispherical, aster-like flowers (1.5 –2.5cm diameter), which bloom in the spring, have yellow centers of tubular disk flowers (2.5-3cm long), surrounded by from 100-150 narrow, white to pinkish-purple rays (5-10mm long). The flowers grow on branches atop a 30 to 90 cm-tall leafless, usually single, stem that grows out of a sparse rosette of basal leaves (4-16cm long). Each branch can bear from a few to several flowers or drooping closed buds. The opened flowers close at night. The basal leaves are ovate (widest near the

base) with toothed margins. Another group of smaller, lanceolate leaves surround and clasp the stem near the base. The leaves and stems can be sparsely pubescent to quite hairy (USDA NRCS 2001).

Life history information on this species, including life history stages, population structure, longevity, mortality, pollination and seed biology are generally lacking. Morse (2001) noted that the seed is equipped with a bristly pappus and is probably wind-dispersed and highly vagile. Given its preference for somewhat weedy sites and its broad distribution, it seems likely that species readily disperses across landscapes within Region 2.

Ode (2001) notes that *Erigeron philadelphicus* is a somewhat weedy species that could actually have increased with disturbance of wetland habitats which offsets the loss of wetland habitat, and that it also occupies a variety of non-wetland habitats. He also noted that it is probably somewhat of a fugitive species, dispersing seeds to discover momentarily disturbed microsites in moist meadows or wetland habitats. Laursen and Heidel (2002) state that it appears the sites in Wyoming are associated with natural or unnatural disturbance, and that it is present elsewhere in its range in abandoned fields and heavily grazed rangeland.

Overview of ecological conditions for recovery, conservation, and viability:

Given the rationales for listing *Erigeron philadelphicus* as “Not R2 Sensitive Species and Not of Concern” discussed above, its G5 global status, and its weedy reputation, we must consider if this species warrants concern for recovery, conservation and viability. The only indication that it is imperiled is its S1 status for the state of Colorado. A search of CNHP documents returned no justification for its S1 status other than the number of occurrences known for Colorado. That must be tempered by the known weedy nature of the species and Weber and Wittman’s suggestion that the populations in Colorado have been introduced from elsewhere. For wetland species that are considered facultative, conserving wetland habitats is generally considered a conservation effort that aids in their recovery, however, as Ode (2001) noted, this species appears to prefer some level of disturbance and likely increases in disturbed wetlands. It’s also known to occupy areas outside of wetlands. Laursen and Heidel (2002) noted that it is present elsewhere within its range in abandoned fields and heavily grazed rangeland, again indicating that it responds to some level of disturbance. They also note that no threats have been identified for this species.

Key uncertainties and information needs/gaps:

There are a large number of uncertainties for *Erigeron philadelphicus*. Of primary concern is whether its scarcity in Colorado is because it’s a relict species, decreasing because of habitat loss, or if it is an opportunistic species that has moved into the state due to wetland disturbance. Its extensive range and the evidence presented from the experts above suggest that it may be the latter.

Because of the uncertainties associated with this species it would be prudent to relocate the known historical occurrence on the Forest, collect population data, and monitor the population.

Monitoring priority is a judgment determination based on number of occurrences, potential threats, and conservation status. The priority for this species is thought to be low. This is primarily due to the status being G5S1 (see Table 1), and limited occurrence in Colorado. This must however, be tempered by the unknowns associated with this species. Existing management practices are not known to be causing detrimental impact. Thus, monitoring is suggested as follows:

- a. Search for and document new species occurrences found on the Forest. Ensure that additional occurrences, as well as negative search results, are recorded in the appropriate electronic database. Finding additional occurrences helps inform whether additional monitoring is needed and at what intensity.
- b. Monitor any located occurrences to document presence or absence. Evaluate each occurrence based on appropriate database protocols. Visually document the same populations every 5-7 years (twice in a planning cycle). Because this species is known to be weedy, any changes in the size of the population should be noted.

Key literature:

Colorado Natural Heritage Program (CNHP). 2015. Element Occurrence Records for the Rio Grande National Forest. Unpublished data on file at the Supervisor's Office for the Rio Grande National Forest. Monte Vista, Colorado. Data compiled 2/2015.

Flora of North America Editorial Committee, eds. 1993+. Flora of North America North of Mexico. 18+ vols. New York and Oxford.

Laursen, S. and B. Heidel. 2002 Region 2 Sensitive Species Evaluation Form, *Erigeron philadelphicus*. Wyoming Natural Diversity Database. March 22, 2002.

Morse, C. A. 2001. Region 2 Sensitive Species Evaluation Form, *Erigeron philadelphicus*. R.L. McGregor Herbarium (KANU), University of Kansas Campus West, 2045 Constant Ave, Lawrence KS. Dec. 30, 2001.

Ode, D. J. 2001. Region 2 Sensitive Species Evaluation Form, *Erigeron philadelphicus*. South Dakota Natural Heritage Program. Sept. 22, 2001.

NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>. Accessed: October 1, 2015.

USDA Natural Resource Conservation Service (NRCS). 2015. The PLANTS Database (<http://plants.usda.gov>, 1 October 2015). National Plant Data Team, Greensboro, NC 27401-4901.

Map of Known Occurrences:

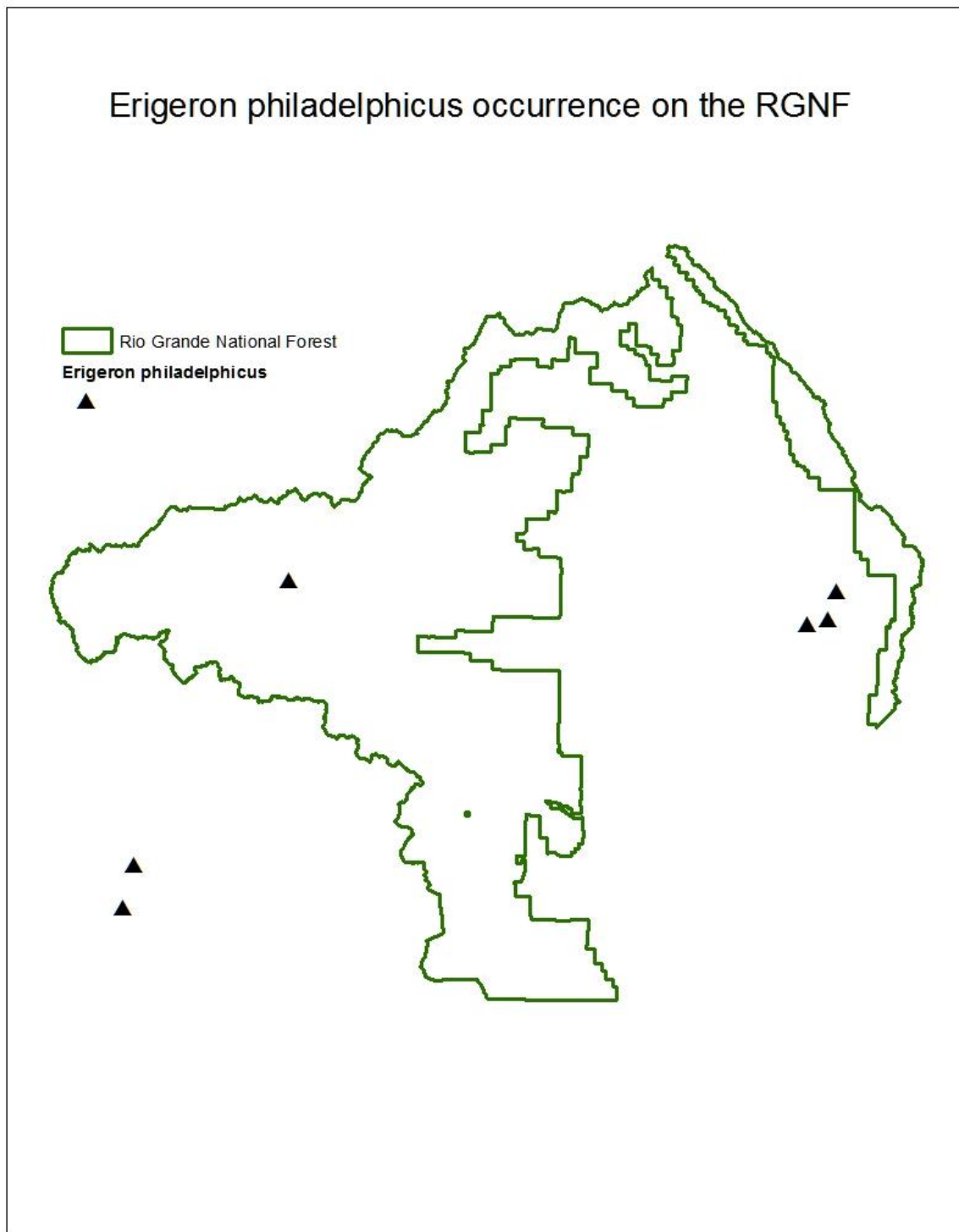


Figure 1. *Erigeron philadelphicus* occurrence on the RGNF.